

WHAT IS CLAIMED IS:

- 1 1. A method for delivering a compound 8 to 80 nucleobases in length into bone
2 marrow derived osteoclast precursor cells, comprising transfecting said cells with said
3 compound in the presence of a non-liposomal transfection agent.
- 1 2. The method of claim 1, wherein said transfecting occurs during early
2 differentiation of said bone marrow derived osteoclast precursor cells.
- 1 3. The method of claim 2, wherein said bone marrow derived osteoclast precursor
2 cells are cultured in the presence of RANK-ligand (RANKL) and macrophage colony
3 stimulating factor (M-CSF), wherein said early differentiation is after day two of said
4 culturing.
- 1 4. The method of claim 3, wherein said early differentiation is before day four of
2 said culturing.
- 1 5. A method for delivering a compound 8 to 80 nucleobases in length into a cell
2 line whose cells are capable of differentiating into osteoclasts, comprising transfecting
3 said cells with said compound in the presence of a non-liposomal transfection agent.
- 1 6. The method of claim 5, wherein said cell line is RAW264.7.
- 1 7. A method for delivering a compound 8 to 80 nucleobases in length into primary
2 osteoclast cells, comprising transfecting said cells with said compound in the presence of
3 a non-liposomal transfection agent.
- 1 8. A method for modulating osteoclast differentiation, comprising delivering a
2 compound 8 to 80 nucleobases in length into bone marrow derived osteoclast precursor
3 cells, said compound targeted to a nucleic acid molecule encoding RANK and capable of
4 binding a region of said nucleic acid molecule encoding RANK, wherein the osteoclast

5 differentiation of said bone marrow derived osteoclast precursor cells is modulated by
6 said compound.

1 9. The method of claim 8, wherein said delivering comprises transfecting said
2 compound into said bone marrow derived osteoclast precursor cells.

1 10. The method of claim 9, wherein said compound inhibits the expression of RANK
2 mRNA by at least 10% upon transfection.

1 11. The method of claim 9, wherein said transfecting is performed in the presence of
2 a non-liposomal transfection agent.

1 12. The method of claim 1, 5, 7, or 11, wherein said non-liposomal transfection agent
2 is one of Effectene® and FuGENE 6.

1 13. The method of claim 1, 5, 7, or 9, wherein said compound comprises 12 to 50
2 nucleobases in length.

1 14. The method of claim 1, 5, 7, or 9, wherein said compound comprises 15 to 30
2 nucleobases in length.

1 15. The method of claim 1, 5, 7, or 9, wherein said compound comprises an
2 oligonucleotide.

1 16. The method of claim 1, 5, 7, or 9, wherein said compound comprises an antisense
2 oligonucleotide.

1 17. The method of claim 1, 5, 7, or 9, wherein said compound comprises a DNA
2 oligonucleotide.

1 18. The method of claim 1, 5, 7, or 9, wherein said compound comprises RNA
2 oligonucleotide.

1 19. The method of claim 1, 5, 7, or 9, wherein said compound comprises a chimeric
2 oligonucleotide.

1 20. The method of claim 1, 5, 7 or 9, wherein at least a portion of said compound
2 hybridizes with RNA to form an oligonucleotide-RNA duplex.

1 21. The method of claim 9, wherein said compound is at least 70% complementary
2 to said region of the nucleic acid molecule encoding RANK.

1 22. The method of claim 9, wherein said compound is at least 80% complementary
2 to said region of the nucleic acid molecule encoding RANK.

1 23. The method of claim 9, wherein said compound is at least 90% complementary
2 to said region of the nucleic acid molecule encoding RANK.

1 24. The method of claim 9, wherein said compound is at least 95% complementary
2 to said region of the nucleic acid molecule encoding RANK.

1 25. The method of claim 9, wherein said compound is at least 99% complementary
2 to said region of the nucleic acid molecule encoding RANK.

1 26. The method of claim 1, 5, or 7, wherein said compound is targeted to a nucleic
2 acid molecule encoding RANK and capable of binding a region of said nucleic acid
3 molecule encoding RANK.

1 27. The method of claim 21, wherein said compound is at least 70% complementary
2 to said region of the nucleic acid molecule encoding RANK.

1 28. The method of claim 21, wherein said compound is at least 80% complementary
2 to said region of the nucleic acid molecule encoding RANK.

3 29. The method of claim 21, wherein said compound is at least 90% complementary

4 to said region of the nucleic acid molecule encoding RANK.

1 30. The method of claim 21, wherein said compound is at least 95% complementary
2 to said region of the nucleic acid molecule encoding RANK.

1 31. The method of claim 21, wherein said compound is at least 99% complementary
2 to said region of the nucleic acid molecule encoding RANK.